Investigation of the influence of the thread torsion on the indications of the penduli of inclination meters.

$\pm 360^{\circ}$ also does not show any appreciable influence on the readings, the error being 0".20, i.e. the accuracy is the same as it would be without preliminary twisting and the value is about four times the accuracy of the indications of the inclination meters and, therefore, use of 0.2 mm dia. threads is not permissible for the H-IV inclination meter. The obtained results can be linked with the ratio of the limit stretching of the thread to the magnitude of the load; the graph, Fig.5, shows the dependence between the limit stretching of steel wire on the wire radius. There are 5 figures and 3 tables.

SUBMITTED: February 7, 1957.

ASSOCIATION: Ac.Sc. U.S.S.R., Institute of Physics of the Earth. (Akademiya Nauk SSSR Institut Fiziki Zemli).

AVAILABLE: Library of Congress
Card 2/2

S/049/60/000/03/012/019
E131/E691

AUTHOR: Karmaleyeva, R.M.

TITLE: An Attempt to Forecast the Time of Near-By Earthquakes

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, Nr 3, pp 467-474 (USSR)

ABSTRACT: The author discusses the theory of forecasting based on the tilting motion of the ground observed before and after occurrence of catastrophic earthquakes, described by various authors (Refs 1-7). Examples of tilting on calm days and during earthquakes are illustrated in Figs 1 and 2 and Tables 1 and 2, respectively. The rate of tilting is calculated from the formula at the top of p 470 and some examples of the results obtained by this formula are given in Fig 3 and Tables 3 and 4. The deviation from the normal rate of tilting, which can be utilized in forecasting earthquakes, can be determined from the formula on p 472. Some examples of such deviations are

Card 1/2

S/049/62/000/011/004/006
D207/D308

AUTHOR: Karmaleyeva, R.M.

TITLE: On a certain correlation between the anomalous behavior of the ground surface tilts and the times of occurrence of earthquakes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofizicheskaya, no. 11, 1962, 1557 - 1561

TEXT: An analysis was made of the ground tilts recorded over eleven years (1948-58) at the seismic station at Dunshamba with tilt-meters of V.F. Bonchkovskiy. A linear relationship was obtained between the number of recorded earthquakes (all those occurring at distances of $\leq$ 100 km and the strong ones occurring at larger distances) and the number of days per month at which the ground tilts varied rapidly and at random ("tilt storms"). Nearby ($\leq$ 100 km) earthquakes to the east of Dunshamba showed a good correlation between the direction of tilt a few days before an earthquake and the geographical direction of the line joining the epi-

Card 1/2

S/049/62/000/011/005/006
D207/D308

AUTHORS: Latynina, L.A. and Karmaleyeva, R.M.

TITLE: First results of the observations made with horizontal extensometers in T'ien-shang

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofizicheskaya, no. 11, 1962, 1574 - 1578

TEXT: The first long extensometers (deformographs) were installed in the USSR in 1961 at the Talgar geophysical station in the region of Alma-Ata. Two extensometers were placed horizontally in a horizontal tunnel 50 m from its entrance; at this location the diurnal temperature variations did not exceed several hundredths of a degree. The extensometers consisted of quartz tube sections joined by Invar unions; one (26 m long) was placed along the north-south direction, the other (4 m long) along the east-west direction. Each was fixed at one end to a concrete platform. The other end was free and it recorded the horizontal displacement of the earth's surface down to 0.2 μ. The intention

KARMALEYEVA, R.M.

Some correlation of the anomalous rate of inclines of the earth's surface and the period of the occurrence of earthquakes. Izv. AN SSSR. Ser. geofiz. no.11:1557-1561 N '62. (MIRA 15:11)

1. Institut fiziki Zemli AN SSSR.
(Dushanbe region—Seismology)

LATYNINA, L.A.; KARMALEYEVA, R.M.

First results of observations performed with a horizontal extensometer in the Tien Shan. Izv. AN SSSR. Ser. geofiz. no.11:1574-1578 N '62. (MIRA 15:11)

1. Institut fiziki Zemli AN SSSR.
(Tien shan--Extensometer)

L 62220-65 EWT(l)/EWG(v) Pc-4/Pe-5/Pq-4/Pg-4 GW

ACCESSION NR: AP5017165 UR/0387/65/000/002/0075/0079
525.6

AUTHORS: Balavadze, B. K.; Karmaleyeva, R. M.; Kartvelishvili, K. Z.; Latynina, L. K.

TITLE: Observations on tidal deformations of the earth by means of a horizontal extensometer in Tbilisi

SOURCE: AN SSSR. Izvestiya. Fizika zemli, no. 2, 1965, 75-79

TOPIC TAGS: tide, earth figure, deformation meter, quartz

ABSTRACT: Two large quartz extensometers were set up in the underground observatory of the Institut geofiziki Gruzinskoy AN (Geophysical Institute of the Georgian Academy of Sciences) in Tbilisi in 1962. The tunnel (100 m long) in which the instruments were placed is in tuffaceous sandstone and mudstone, and is lined with a layer of concrete 30-40 cm thick. One extensometer, with a 41-m base, is set up 40 m from the tunnel entrance. Its sensitivity is $0.22 \cdot 10^{-8}$ mm, and it is oriented N 60° E. The other instrument, with a 14.5-m base, is set up 70 m from the entrance. Its sensitivity is $0.7 \cdot 10^{-8}$ mm, and it is oriented N 30 W. The instruments record the displacement of two fixed points on the earth's surface, the distance between

Card 1/2

L 62220-65
ACCESSION NR: AP5017165

the points being the instrumental base. Connection with the ground is made through rigid rods (tubes of transparent quartz glass, 3 m long, 40 mm in diameter, and with walls 2-3 mm thick). A continuous record was obtained from only the N 30° W instrument because of moisture damage to the other. For June-September 1963 this instrument showed a tidal displacement amounting to $3.5 \cdot 10^{-8}$ mm. The durations of the fluctuations were subjected to harmonic analysis to isolate the tidal component. The ratio of elastic constants (Love number to Shida number) was found to be 6.6. Assuming the first to be 0.5-0.6, the second would then be 0.08-0.09, a value that is in good agreement with other authors. The value of the Love number, computed separately, is found to be lower than that given by gravimetric data and inclinometer measurements. It is possible that the variation may be due to local peculiarities in deformation. Orig. art. has: 2 figures, 2 tables, and 8 formulas.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Academy of Sciences SSSR, Institute of Physics of the Earth)

SUBMITTED: 04May64 ENCL: 00 SUB CODE: ES, MP

NO REF SOV: 003 OTHER: 002

Card 2/2

BALAVADZE, B.K.; KARMALEYEVA, R.M.; KARTVELISHVILI, K.Z.; LATYNINA, L.K.

Use of a horizontal extensometer in observing tidal deformations of the earth at Tbilisi. Izv. AN SSSR. Fiz. zem. no.2:75-79 '65. (MIRA 18:6)

1. Institut fiziki Zemli AN SSSR.

L 35930-66 EWT(1)/EWP(e)/EWT(m) WH/GW

ACC NR: AT6011163 SOURCE CODE: UR/3197/65/000/002/0376/0381

AUTHOR: Latynina, L. A.; Karmaleyeva, R. M.

ORG: Institute of the Physics of the Earth, AN SSSR (Institut fiziki zemli AN SSSR)

TITLE: Measurement of horizontal displacements on the earth's surface, using quartz extensometers

SOURCE: AN EstSSR. Institut fiziki i astronomii. Sovremonnyye dvizheniya zemnoy kory. Recent crustal movements, no. 2, 1965, 376-381

TOPIC TAGS: ~~crustal movement, horizontal crustal movement,~~ geophysic instrument, seismologic instrument, EARTH CRUST, TECTONICS, SEISMOLOGY

ABSTRACT: Since 1961 systematic observations of slow horizontal movements of the earth's surface have been conducted with a quartz extensometer (deformograph) at the Talgar geophysical station (near Alma-Ata). The instrumentation makes it possible to measure relative displacements of points on the earth's surface, horizontally scattered at 25 m (base of the instrument). The instrument is used for registration of contemporary tectonic movements, long-period seismic oscillations, tidal movements of the earth's crust, and movements caused by meteorological factors. The instrument is installed in a

Card 1/2 UDC: 550.342

L 35930-66

ACC NR: AT6011163

passage running in a meridional direction. The bar of the instrument consists of quartz tubes, connected by invar sleeves. One end of the bar is rigidly fastened to the rock (cemented at the base), the other end is free-moving. The motions of the free end of the bar are recorded twice: by direct registration and by remote photoelectric registration. A roller between the bar and the top of the base serve as the displacement sensor. The threshold value of registered displacements is 0.05 μ. Maximum rock displacements over a 3-yr period (October 1961—June 1964) were 30 μ. During the first three months the deformation was greater than in following months because the supporting bases had yet to become stabilized. Residual deformation for the 3 yr was 3 μ. Seasonal deformation with an amplitude of 1 μ was noted. A change in the sign of deformation was registered before the Aleutian earthquake of 29 March 1964. Soon after the earthquake the sign changed again. There is no adequate explanation for the relationship between these phenomena. No direct relationship was detected between the rate of rock deformation and the moments at which nearby earthquakes occurred. The elastic constants of the earth, the Love number h and Shida (Japan) number were computed as 0.36 and 0.05, respectively, on the basis of horizontal tidal deformations. As compared with the data of gravimetric and tiltmeter observations, h is lower by 30—40%; this can be explained by the fact that the instrument was near the surface of the ground.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 003

Card 2/2 *ll*

L 34985-66 EWT(1) GW

ACC NR: AP6026256 SOURCE CODE: UR/0387/66/000/005/0033/0042

AUTHOR: Savarenskiy, Ye. F. (Doctor of physicomathematical sciences); Nersesov, I. L.; Karmaleyeva, R. M.; Latynina, L. A.

ORG: Institute of Physics of the Earth, AN SSSR (Institut fiziki Zemli AN SSSR)

TITLE: Long-period waves of the Aleutian earthquake of 4 February 1965 recorded by quartz extensometers

SOURCE: AN SSSR. Izvestiya. Fizika zemli, no. 5, 1966, 33-42

TOPIC TAGS: earthquake, Rayleigh wave, internal friction

ABSTRACT: This paper gives an analysis of long-period oscillations from the earthquake of 4 February 1965 which occurred in the Aleutian Islands. The tremor (M = 8.5) was recorded by extensometers at Talgar (Kazakh SSR) and Dzherino (Tadzhik SSR). It was possible to detect groups of Love waves from the 2d to 9th order with periods from 70 to 720 sec and groups of Rayleigh waves from the 2d to 13th order with periods of 120-330 sec. The dispersion curves of the group velocities of these waves were obtained. The authors determined the amplitudes of the displacements in the R and L waves, the coefficients of decrease of the amplitudes γ and the parameter Q, characterizing internal friction in the earth. The value Q agrees with the data obtained by other authors. The values Q, determined from Love waves, vary from 60 to 120 when T = 300-500; the values Q for Rayleigh waves vary in the range 150-200 when T = 200. Orig. art. has: 7 figures, 7 formulas, and 3 tables. [JPRS: 36,553]

SUB CODE: 08 / SUBM DATE: 03Aug65 / OTH REF: 005

Card 1/1

UDC: 550.342(798)

09/6 1805

KARMALIN, N.

Improvements in the ultrashort wave radio station of the steamer "Olonets." Mor. flot 23 no.5:20 '63. (MIRA 16:9)

1. Nachal'nik radiostantsii parokhoda "Olonets."
(Radio in navigation) (Radio, Shortwave)

KARMALITAVA, Ye.A.

Your child has begun attending the first grade. Reb.i sial. 22 no.9:16-17 S '57. (MLRA 10:9)

(Children--Management)

KARMALKAR, P. K.

1584. Treatment of polarographic data by the method of least squares. II. Simultaneous estimation of the diffusion current and the half-wave potential. V. B. Vouk, P. K. Karmalkar and O. A. Weber (Inst. Med. Res., Yugoslav Acad. Sci., Zagreb, Yugoslavia). *Arhiv Kem.*, 1955, **27** (1), 9–13.—The method of least squares has been applied to the simultaneous determination of $E_{\frac{1}{2}}$ and i_d with an accuracy slightly greater than that obtained from the usual graphical methods. The method is very well suited to the analysis of composite current-voltage curves, particularly for those metals whose curves tend to coalesce, *e.g.*, those of Pb^{++} and Tl^{+}. The paper is mainly mathematical in its treatment, but the equations derived are illustrated by use of the data collected from the polarograms of $4{\cdot}0 \times 10^{-4}$ *N* $TlNO_3$ and $4{\cdot}0 \times 10^{-4}$ *N* Pb acetate in 0·1 *N* KCl as supporting electrolyte.

D. G. Higgs

DUBROVIN, Ye.; KARMAL'SKIY, O.; FILATOV, G.; LOKOTKOV, A.; LEBEDINSKIY, A.; BARANOV, I.; MITSEVICH, P.; BABENKO, Ye.; GOLITSYN, A. (Ozery, Moskovskoy obl.); SHCHEPOTIN, I. (Ozery, Moskovskoy obl.); KHALANGOT, A. (Snezhnoye, donetskoy obl.); KUZ'MICHEV, N. (Snezhnoye, Donetskoy obl.); SIRITSA, A., inzh. po ratsionalizatsii

This is the way we live. Izobr. i rats. no.10:4-5, 23 '63.
(MIRA 17:2)

1. Chlen soveta obshchestvennogo konstruktorskogo byuro zavoda im. V.I. Lenina (for Karmal'skiy). 2. Predsedatel' Amurskogo oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Filatov). 3. Predsedatel' Chelyabinskogo promyshlennogo oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Lokotkov). 4. Starshiy **svarshchik** Odesskogo zavoda imeni Dzerzhinskogo (for Lebedinskiy). 5. Predsedatel' zavodskogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Baranov). 6. Predsedatel' soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov Irkutskogo zavoda tyazhelogo mashinostroyeniya imeni Kuybysheva (for Mitsevich).

KARMAN, G. K.

Karman, G. K. - "The Development of the General School in the Ukraine during the Fourth Five-Year Plan (1946-1950)." Min Education Ukrainian SSR. Kiev State Pedagogical Inst imeni A. M. Gor'kiy. Kiev, 1950 (Dissertation for the Degree of Candidate in Pedagogical Sciences).

So: Knizhnaya Letopis', No. 40, 1950, pp 13-17

DEAK, Gyorgy, dr.; [illegible], [illegible], [illegible]

Unification of the [illegible] prescriptions [illegible] trusses in the Council for Mutual Economic Assistance countries. Epites szemle 8 no. 6.[illegible] '64.

1. Director, [illegible] Industry, Ministry of Construction, [illegible].
2. Scientific Institute of Construction, [illegible].

GARAY, Lajos, dr.; KARMAN, Tamas

Power transmission of tensioning inserts. Magy ep ipar 10 no.11:514-516 N '61.

KARMAN, Tamas

On the minimum reinforcement of stressed concrete structures.
Magy ep iapr 12 no.1:37-40 '63.

KARMAN, Tamas

Transverse cofunction of floor structures. Magy ep ipar 12 no.2:81-84 '63.

KARMAN, Tamasne

"Determination of international statistics" by Gunter Menges. Reviewed by Mrs.Tamas Karman. Stat szemle 40 no.7:773-774 Jl '62.

KARMAN, Tamasne

"On national accounting" by Ingvar Ohlsson. Reviewed by Mrs.Tamas Karman. Stat szemle 40 no.7:776-777 Jl '62.

KARMAN, Tamasne

Reorganization of the Swedish Central Statistical Office.
Stat szemle 41 no.4:405-406 Ap '63.

KARMAN, Tamasne

"Discrimination in employment or occupation on the basis of marital status" (from "International Labout Review", March-April, 1962). Reviewed by Mrs. Tamas Karman. Stat szemle 41 no.3:320-322 Mr '63.

BORN, Max; KARMAN, Todor; GYORGYI, Geza [translator]

Oscillations in space lattices. Magy fiz folyoir 10 no.1:47-69 '62.

KARMAN, Todor; NAGY, Erno [translator]

Magnetohydrodynamics. Fiz szemle 13 no.8:227-230 Ag '63.

KARMAN, V.I.

The O-meson and the Fermi - Yang hypothesis. Zhur.eksp.i teor.fiz. 781-782 Ap '56. (MLRA 9:8)

1. Minskiy pedagogicheskiy institut.
(Mesons) (Particles, Elementary)

KARMANAVA T.S.

2961. Ladle and blast-furnace bricks from Polozhskii kaolin and Chasov-Yar clay.—A. I. Kurts, and T. S. Karmanova. (*Ogneupory*, 20, 178, 1955). The properties of the bricks are given. When used in 2000-t. ladles, thes ebricks had an average life of 115 casts. (2 tables.)

ISFRSON,G.B.; KARMANOV,A.A.

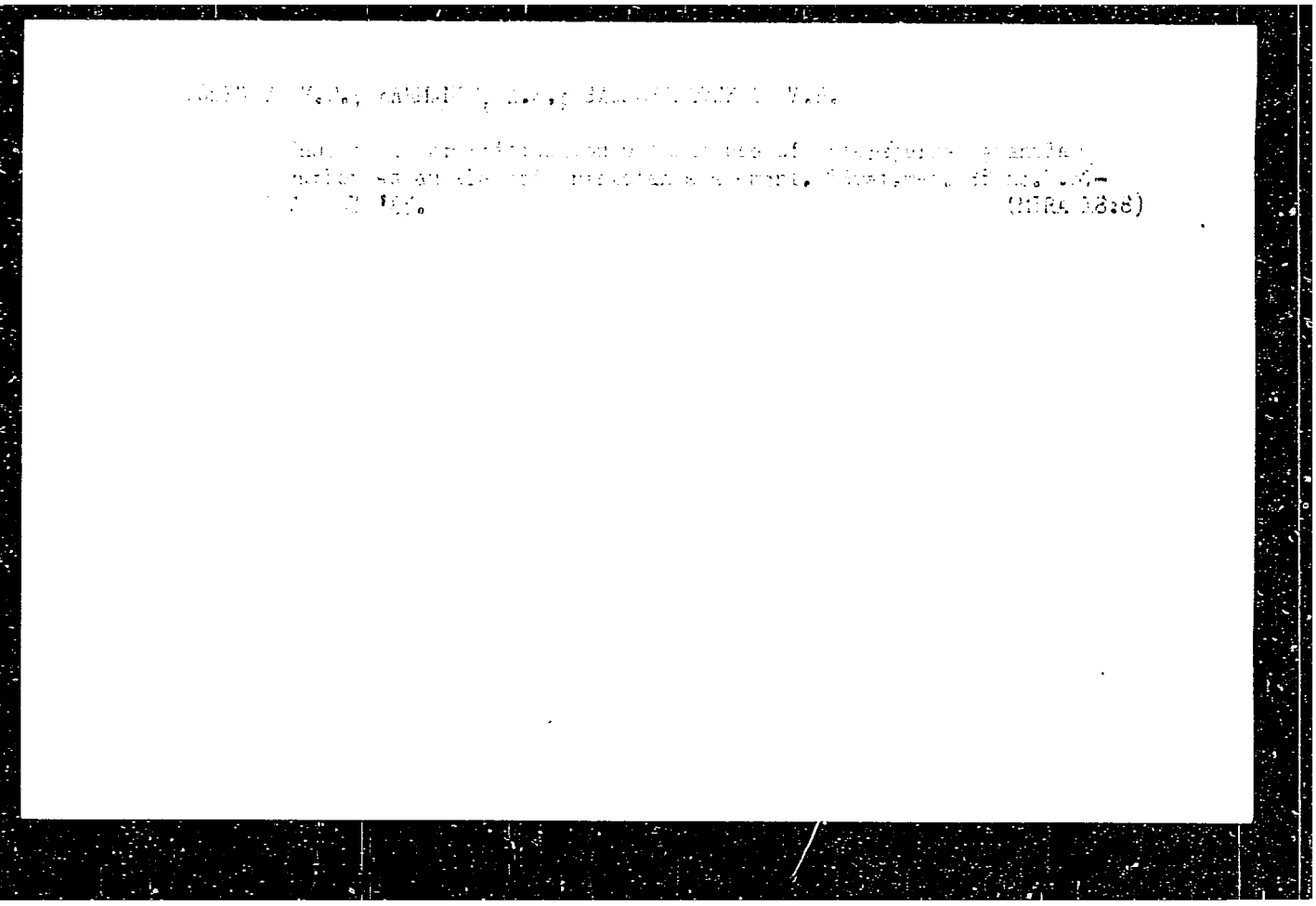
Metal extraction from Severskii Plant dumps. Stal' 15 no.9:842-844 S'55. (MLRA 8:12)

1. Severskiy metallurgicheskiy zavod
(Polevskoy--Metallurgical plants)

PETROV, Aleksey Semenovich; KARMANOV, Aleksandr Ivanovich; KULANDIN, Ya.I., red.; LEVANDOVSKIY, S.N., red.; GOLYATKINA, A.G., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Manufacture of rolls for cold rolling] Proizvodstvo valkov kholodnoi prokatki. Moskva, Metallurgizdat, 1962. 216 p. (MIRA 15:4)

(Rolls (Iron mills))



KARMANOV, B., inzhener-konstruktor.

The S-254 motorcycle. Za rul. 14 no.4:7 Jl '56. (MLRA 10:1)
(Motorcycles)

KARMANOV, Boris Sergeyevich

IVANITSKIY, Svyatoslav Yur'yevich, inzh.; IGNATOV, Yuriy Vladimirovich, inzh.; KARMANOV, Boris Sergeyevich, inzh.; ROGOZHIN, Vsevolod Vyachislavovich, inzh.; BEKMAN, V.V., inzh., retsenzent; GINTSBURG, M.G., retsenzent; SMELYANSKIY, V.A., inzh., red.; UVAROVA, A.F., tekhn.red.

[Motorcycles; construction, theory, design] Mototsikl; konstruktsiia, teoriia, raschet. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 503 p. (MIRA 11:4)
(Motorcycles)

KARMANOV, B.S.

AUTHOR: Tikhomirov, I.N. 113-58-7-24/25

TITLE: Critique and Bibliography (Kritika i bibliografiya)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 7, pp 44-45 (USSR)

ABSTRACT: This is a review of the book "Mototsikl. Konstruktsiya, teoriya, raschët" (The Motorcycle. Manufacture, Theory, Calculation) by S.I. Ivanitskiy, Yu.V. Ignatov, B.S. Karmanov, and V.V. Nogozhin, published by Mashgiz in 1958. This book is the first treatment of the theme in 11 years and gives sufficient and up-to-date information on motorcycles for students and factory workers in the field. The chapter on the engine fuel supply system is awkward. Also some diagrams and figures of parts are obsolete and have since been replaced.
There are 3 Soviet references.

ASSOCIATION: Voronezhskiy sel'skokhozyaystvennyy institut (The Voronezh Agricultural Institute)

1. Motorcycles--Production 2. Motorcycles--Theory 3. Motorcycles --Mathematical analysis

Card 1/1

KARMANOV, B., inzh.

Modernization of the S-157 motorcycle. Za rul. 18 no.2:10-11 F '60. (MIRA 13:6)

1. Vedushchiy konstruktor TSentral'nogo konstruktorsko-eksperimental'nogo byuro mototsiklostroyeniya, Serpukhov.
(Motorcycles)

ACC NR: AP7000362 (A) SOURCE CODE: UR/0413/66/000/022/0134/0134

INVENTOR: Ivanitskiy, S. Yu.; Karmanov, B. S.

ORG: none

TITLE: Rotory-piston internal-combustion engine. Class 46, No. 188794 [announced by the Central Experimental Design Bureau of Motorcycle Building (Tsentral'noye konstruktorsko-eksperimental'noye byuro mototsiklostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 134

TOPIC TAGS: rotory engine, piston engine, internal combustion engine, engine component

ABSTRACT: An Author Certificate has been issued for a rotory-piston internal-combustion engine consisting of a block with n cavities of epitrochoidal profile and a shaft carrying an eccentrically mounted rotory-piston with n + 1 protrusions, forming with the cavities (during a planetary motion) the working chambers; it is cooled by the fuel mixture fed by an axial fan through channels in the rotory piston. To simplify the design and increase the coefficient of charge, in the rotory-piston channels are arranged fan blades in the form of radial ribs placed at an angle to the rotory piston's axis of rotation. The opening for feeding fuel into the working chamber can be located on epitrochoidal surface of the block. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 04Aug65/

Card 1/1 UDC: 621.437.26

KARMANOV, E.S., referent

Effect of various elements on the activity of carbon in liquid iron-base alloys. Stal' 21 no. 4:320-321 Ap '61. (MIRA 14:4)
(Iror alloys) (Activity coefficients)

KARMANOV, F.G., inzh.

Standard designs for round reinforced concrete pipes. Transp. stroi. 7 no.6:1-5 Je '57. (MIRA 10:11)
(Pipe, Concrete)

KARMANOV, F.G., inzh.

Rearrangement of the supporting elements of a reinforced concrete overpass. Put' i put.khoz. 7 no.7:25-26 '63. (MIRA 16:10)

1. Glavnyy spetsialist otdela mostov Sibgiprotransa, Novosibirsk.

AFONIN, I. P.; GAVRILOV, B. I.; ZAVOYSKIY, Ye. K.; KARMANOV, F. V.; MAKSIMOV, G. P.; PLAKHOV, A. G.; CHEREMNYKH, P. A.; SHAPKIN, V. V.

The experimental plasma apparatus C-1 with screw magnetic fields. Atom. energ. 14 no.2:143-150 F '63. (MIRA 16:1)

(Plasma(Ionized gases)) (Magnetic fields)

L 15596-65 EPA(w)-2/EWT(m)/EWA(m)-2 Pab-10 DM

ACCESSION NR: AP5009121 S/0089/65/018/003/0273/0275

AUTHOR: Gavrilov, B. I.; Kamanov, F. V.; Maksimov, G. P.

TITLE: On the operation of a cylinderizer in a stellarator

SOURCE: Atomnaya energiya, v. 18, no. 3, 1965, 273-275

TOPIC TAGS: stellarator, magnetic field configuration, cylinderizer, magnetic trap

ABSTRACT: The authors present preliminary results of the experimental verification of one variant of a "cylinderizer" which transforms triangular magnetic surfaces in a stellarator into cylindrical surfaces. Approximate calculations for such devices were presented by E. Friman et al (The Proposed Model C Stellarator Facility, Project Matterhorn, Ch. IV, NYO-7899, p. 78). The cylinderization of helical magnetic surfaces, produced by a trifilar helical winding, was investigated by sweeping electron beams from a source of 19 beams placed in an axially-symmetrical magnetic field. The electron beams were made to follow circular paths and were displayed on a fluorescent screen after passing along the magnetic force lines through the region of the investigated helical magnetic field. The chamber and the system of coils to produce the magnetic field are described briefly. The cyl-

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L 45596-65

ACCESSION NR: AP5009121 O

inderizer described was found to exert too strong an influence on the magnetic surface, and cylinderization of the magnetic surfaces to acquire triangular form again. It was necessary to either reduce the current by 10% or reduce the length of the cylinderizer by 16%. Relations between the cylinderizer dimensions, the current, and the pitch of the trifilar helical winding are presented. Orig. article has: 3 figures and 2 formulas.

ASSOCIATION: None

SUBMITTED: 14May64 ENCL: 00 SUB CODE: ME

NR REF SOV: 001 OTHER: 001

Card 2/2 nb

L 58334-65 EWT(1)/EPF(n)-2/EWG(m)/EPA(w)-2 Pz-6/Po-4/Pab-10/Pi-4 IJP(c)
WW/AT
ACCESSION NR: AT5010442 UR/3136/64/000/668/0001/0010

AUTHOR: Karmanov, F. V.; Kal'nikov, V. I.

TITLE: On the compensation of perturbation of a helical magnetic field

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 668, 1964. O kompensatsii vozmushcheniy vintovogo magnitnogo polya, 1-10

TOPIC TAGS: plasma perturbation, magnetic trap, magnetic field configuration, magnetic field perturbation, plasma containment

ABSTRACT: Continuing earlier work by one of the authors (Mel'nikov, DAN v. 149, no. 5, 1056, 1963), who proposed the idea of compensating the perturbations of a helical magnetic field resulting from the drift of some part of the force lines from the region bounded by separatrix branches, the authors report that they have confirmed experimentally the conditions under which the perturbations can be compensated for. They also show that in the case when the compensation conditions are not satisfied, the drift of the force lines becomes stronger. The particular perturbation considered is that of a trifilar helical magnetic field by a combination of a bifilar magnetic field and a constant perpendicular magnetic field. The ex-

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L 58334-65
ACCESSION NR: AT5010442

perimental set-up is shown in Fig. 1 of the Enclosure and constitutes a vacuum chamber of cylindrical form, on one of which is the electron source and on the other a luminescent screen. The inside radius of the chamber was 5 cm and the distance from the source to the screen was 230 cm. "The authors thank B. I. Gavrilov, G. P. Maksimov, and P. A. Cherenykin for help with the work and for valuable advice." Orig. art. has: 2 figures and 2 formulas.

ASSOCIATION: none

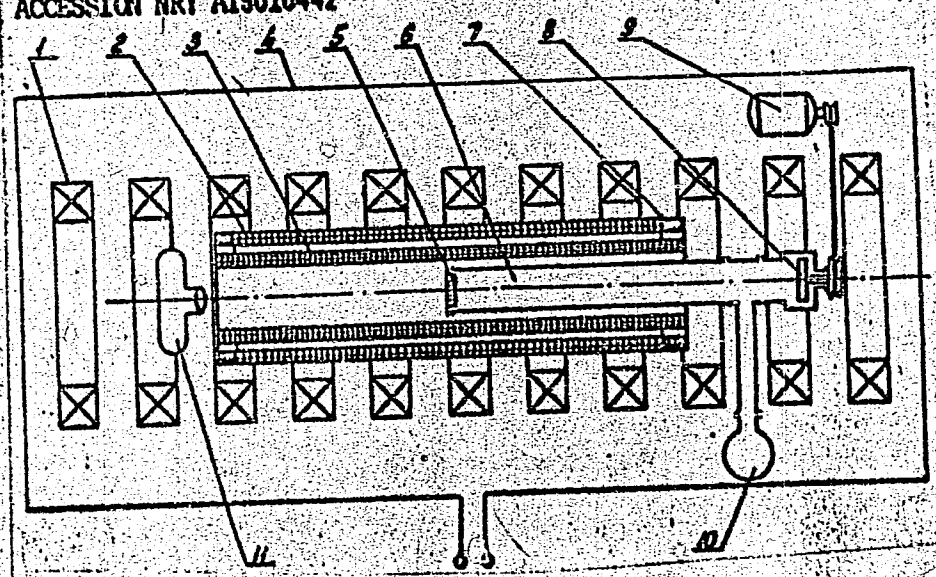
SUBMITTED: 00 ENCL: 01 SUB CODE: NP

NR REF SOV: 003 OTHER: 000

Card 2/3

L 58334-65
ACCESSION NR: AT5010442

ENCLOSURE: 01



1 - Coil,
2 - trifilar coil
3 - bifilacr coil
4 - compensating turn,
5 - luminor screen
6 - vacuum chamber
7 - cylindrizer of trifilar field
8 - electron source
9 - motor
10 - vacuum pump
11 - camera

Fig. 1. Diagram of installation.

Card 3/3

L 2490-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT

ACCESSION NR: AP5020722 UR/0057/65/035/008/1385/1389

44,55 65 53 B

AUTHOR: Karmanov, F. V.; Mel'nikov, V. K. 44,55

TITLE: On compensating distortions of a helical magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 8, 1965, 1385-1389

TOPIC TAGS: helical magnetic field, combined magnetic field, transverse magnetic field, perturbation, plasma confinement 44,55

ABSTRACT: One of the authors has previously given a theoretical treatment of distortions of a helical magnetic field and their compensation (V.K.Mel'nikov. DAN SSSR, 144, No.4, 747, 1962; ibid 149, No.5, 1056, 1963; Trudy Moskovsk. matem. obshch., 12, 3, 1963). Because of the large distortions of the separatrix produced by comparatively small perturbing fields, the authors consider it over-optimistic to anticipate only a small loss of particles to the walls of a stellarator owing to the toroidal geometry of the tube. The present paper reports an experimental test of the helical field perturbation compensation theory. A triple helical field of 150 cm reciprocal pitch was produced in a 5 cm radius 230 cm long cylindrical chamber by a 7 cm radius winding; a 100 cm reciprocal pitch double

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L 2490-66

ACCESSION NR: AP5020723

12

helical perturbing field was produced by a 5.6 cm radius winding, and a plane compensating field normal to the axis of the chamber was also provided. In addition to these fields, there was a 400 Oe uniform magnetic field parallel to the axis of the chamber. Electrons were injected at one end of the chamber, apparently by a hot cathode that was rotated to assure an axially symmetric beam, and were caught on a fluorescent screen at the other end of the chamber. The electron patterns on the fluorescent screen were photographed for different strengths of the main helical field, the perturbing helical field, and the compensating field and are compared with the predictions of the theory (loc cit supra), which are derived here anew. The experimental results were in agreement with the theory. "The authors consider it their pleasant duty to express their gratitude to B.I.Gavrilov, Ye.K. Zavoyskiy, G.P.Makarimov, and P.A.Cherenkh for valuable advice and assistance with the work." Orig. art. has: 13 formulas and 7 figures.

ASSOCIATION: none

SUBMITTED: 07Dec64 ENCL: 00 SUB CODE: EM, ME

NR REF SOV: 003 OTHER: 000

Card 2/2

L 6816-65 EWT(m)/T/EWP(q)/EWP(b) ASD(f)/AFWL/SSD/AS(mp)-2/Pb-4 JD/JW/JG

ACCESSION NR: AP4044656 S/0048/64/028/008/1373/1376

AUTHOR: Karmanov, G.A.; Ptushinskiy, Yu.G.

TITLE: Procedure for measuring the amount of adsorbed gas /Report, Third All-Union Conference on Semiconductor Compounds held in Kishinev 16-21 Sep 1963/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.8, 1964, 1373-1376

TOPIC TAGS: adsorption, adsorption rate, chemisorption, carbon monoxide, tungsten

ABSTRACT: The adsorption of carbon monoxide on tungsten was investigated at temperatures from 77 to 293°K by a modification of the flash desorption method of J. Becker and C.Hartman (J.Phys.Chem.57,157,1953). The measurements were undertaken because of the lack of reliable low temperature data, particularly for the rate of adsorption, although the phenomenon has been adequately investigated at higher temperatures. As indicated by their choice of title, however, the authors regard their modification of the flash desorption method as at least as important as their results concerning carbon monoxide. This modification consists in heating the tungsten adsorber by discharging a capacitor through it, rather than by suddenly applying a constant emf. By discharging a 1300 microfarad capacitor charged to 140 V

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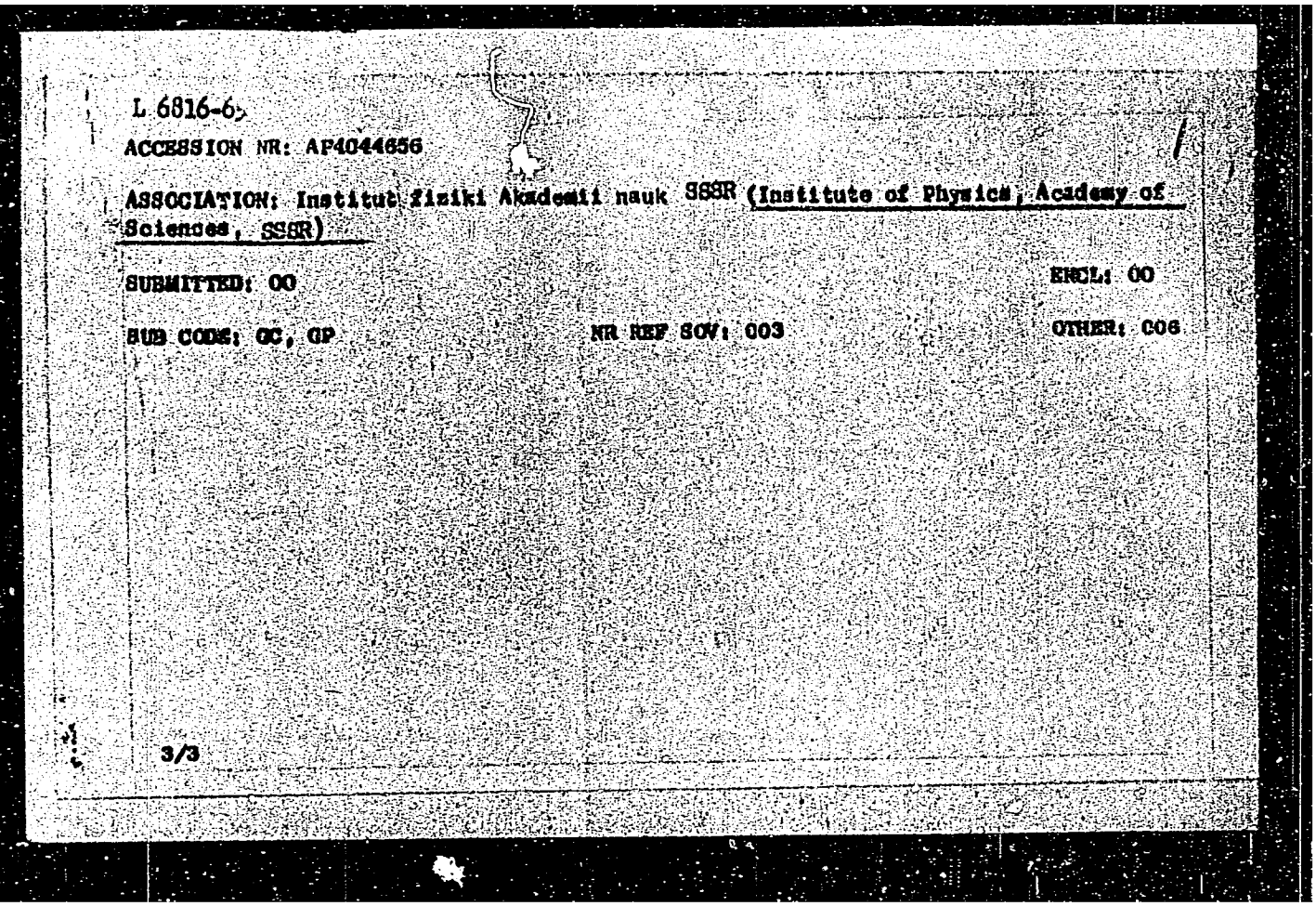
ACCESSION NR: AP4044656

through their tungsten strip (dimensions not given) the authors were able to bring it to 2500°K within 4 millisec, whereas approximately one second was required to heat the strip to that temperature by applying a dc voltage. The rapid change in pressure accompanying the rapid heating of the adsorber was followed by means of an ionization gage and an oscillograph. The advantage of the rapid flash is that the system may be continuously pumped at a reasonable rate without appreciably affecting the peak pressure. Adsorption isobars for CO on W were obtained at pressures from 10^{-5} to 10^{-7} mm Hg and temperatures from 77 to 253°K, and adsorption rates were measured. The initial adsorption rates (onto a clean surface) were analyzed with the aid of the equation of V.M.Gavrilyuk (Dokl.AN SSSR,141,1124,1961), and it was found that the difference between the heat of (physical) adsorption and the activation energy for chemisorption is 0.04 eV. The heat of adsorption was calculated as a function of the surface density of adsorbed gas from the adsorption isobars. It was found to decrease from 0.33 eV at 7.7×10^{14} cm^{-2} to 0.19 eV at 11×10^{14} cm^{-2} (approximately one CO molecule per surface W atom) and to remain constant at this value at higher densities. This constant high density heat of adsorption is regarded as the heat of physical adsorption, and it is accordingly concluded that the activation energy for chemisorption is 0.15 eV. Orig.art.has: 1 formula and 7 figures.



L 6816-65

ACCESSION NR: AP4044656

ASSOCIATION: Institut fiziki Akademii nauk SSSR (Institute of Physics, Academy of Sciences, SSSR)

SUBMITTED: 00 ENCL: 00

SUB CODE: GC, GP NR REF SOV: 003 OTHER: 006

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SOV/137-57-1-1056

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 137 (USSR)

AUTHORS: Karmanov, G. V., Luzhbin, B. P.

TITLE: Increasing the Productivity of Quenching and Tempering Furnaces for Heat Treatment of Connecting Rods of a D6 Diesel Engine (Uvelicheniye proizvoditel'nosti zakalochnykh i otpusknykh pechey dlya termicheskoy obrabotki shatunov dizel'motora D6)

PERIODICAL: Tekhnol. transp. mashinostroyeniya, 1956, Nr 4, pp 59-61

ABSTRACT: A buggy-type device was designed which permits doubling the number of connecting rods (made of steel 18KhNVA) charged into the tempering furnace (F). The removal of the connecting rods and their delivery to the table of the F, where the stacked rods are gripped with a special device and are transferred by a crane to the cooling station, is also accomplished with the aid of the buggy. The design of the shaft F for tempering of connecting rods was improved. The productivity of the F was doubled by means of expanding its working zone without changing the external dimensions of the housing.

M. Ch.

Card 1/1

KARMANOV, I.

"The development of methods of aerial photo interpretation in the Soil Section of the International Training Center for Aerial Survey" by P. Buringh. Reviewed by I. Karmanov. Pochvovedenie no.5:113-114 My '63. (MIRA 16:5)

(Soil survey) (Photographic interpretation)
(Buringh, P.)

KARMANOV, I.A., inzh.-marksheyder

Surface subsidence in potash mines. Gor.zhur. no.10:72-73 O '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut galurgii, Leningrad.
(Subsidences (Earth movements)) (Potash)

BULATOV, A.I.; KARMANOV, I.A.

Cements of reduced specific weight for cementing deep high-temperature wells. Gaz. prom. 7 no.4:8-10'62 (MIRA 17:7)

KARMANOV, I.A.

Changes in the temperature of clay muds at the well head occurring in drilling. Trudy KF VNII no.9:12-20 '62.
(MIRA 15:9)

(Oil well drilling fluids)

BULATOV, A.I.; KARMANOV, I.A.

Industrial use of slag-sand cement in cementing deep wells in the Kuban. Trudy KF VNII no.9:50-55 '62. (MIRA 15:9)
(Kuban--Oil well cementing)

BULATOV, A.I.; KARAYEV, A.K.; KARMANOV, I.A.; SIDOROV, N.A.

Using cement slurries of the reduced specific gravity in fields of Krasnodar Territory. Neft. khoz. 40 no.5:21-25 My '62. (MIRA 15:9)
(Krasnodar Territory--Oil well cementing)

KARMANOV, I.A.

Flow of liquid-phase circulating fluid into a reservoir. Trudy KF VNII no.11:64-70 '63. (MIRA 17:3)

KARMANOV, I.A.

Determining the heat-transfer and heat-loss coefficients in a well hole in clay mud circulation. Trudy KF VNII no.11:13-21 '63.
(MIRA 17:3)

KARMANOV, I.A.; BULATOV, A.I.

Evaluating the flow properties of cement slurries. Neft. khoz. 42 no.1:19-23 Ja'64. (MIRA 17:5)

KARMANOV, I.A.

Investigation of the temperature conditions in drilled wells with circulating fluid. Neft. khoz. 41 no. 12:12-17 D '63. (MIRA 17:6)

KARMANOV, I.A.

Determining the maximum bottom temperature and well temperatures from the point of view of cementing. Burenie no.2:19-21 '64.
(MIRA 18:5)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-issledovatel'skogo instituta.

KARMANOV, I.A.; BULATOV, A.I.; GAYVORONSKIY, V.V.; OZERKOV, S.A.

Investigating the thickening of cement grouting at high temperatures and pressures. Burenie no.7:23-27 '65. (MIRA 18:12)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-issledovatel'skogo instituta.

KARMANOV, I.I.

KARMANOV, I.I.

Genetic and regional characteristics of Chernozems typical to the northwestern Altai [with summary in English]. Pochvovedenie no.3:42-50 Mr '58. (MIRA 11:4)

1. Pochvennyy institut im. V.V. Dokuchayeva AN SSSR.
(Altai Territory--Chernozem soils)

KARMANOV, I.I.

Soils of rice paddies in Lower Burma and other regions of the Burma Union. Pochvovedenie no.8:37-44 Ag '60. (MIRA 13:8)

1. Pochvennyy institut im. V.V.Dokuchayeva Akademii nauk SSSR.

(Burma--Soils)

KARMANOV, Ivan Ivanovich; LIVEROVSKIY, Yu.A., doktor geogr. nauk, otv. red.

[Soils in the piedmont of the northwestern Altai and their use in agriculture] Pochvy predgorii Severo-Zapadnogo Altaia i ikh ispol'zovanie v sel'skom khoziaistve. Moskva, Nauka, 1965. 157 p. (MIRA 18:5)

KARMANOV, I.M., general-mayor intendantskoy sluzhby; BESPALOV, P.N. starshiy leytenant; DEMENT'YEV, K.I., polkovnik

[Automobile driving course] Kurs bozhdeniia avtomobilei.[Moskva] Voen.izd-vo Ministerstva vooruzhennykh sil SSSR, 1946,84 p (MLRA 8:10)

1. Russia (1923- U.S.S.R.) Armiya. Glavnoye avtomobil'noye upravleniye.
(Automobile drivers)

VITVITSKIY, G.N.; KRAVCHENKO, D.V.; NIKOL'SKAYA, V.V.; CHICHAGOV, V.P.; KURENTSOV, A.I.: VOROB'YEV, D.P.; LIVEROVSKIY, Yu.A.; KARMANOV, I.N.; PETROV, B.F.; KOLESNIKOV, B.P.; KABANOV, N.Ye.; DMITRIYEVA, N.G.; RIKHTER, G.D., doktor geogr. nauk, otv. red.; LADYCHUK, L.P., red. izd-va; DOROKHINA, I.N., tekh. red.

[The Far East; its physical geography] Dal'nii Vostok; fiziko-geograficheskaia kharakteristika. Moskva, 1961. 436 p. (MIRA 14:9)

1. Akademiya nauk SSSR. Institut geografii. 2. Institut geografii AN SSSR (for Vitvitskiy, Kravchenko, Nikol'skaya, Chichagov). 3. Dal'nevostochnyy filial AN SSSR (for Kurentsov, Vorob'yev). 4. Pochvennyy institut AN SSSR (for Liverovskiy, Karmanov, Petrov). 5. Biologicheskiy institut Ural'skogo filiala AN SSSR (for Kolesnikov). 6. Institut lesa AN SSSR (for Kabanov). 7. TSentral'nyy institut prognozov (for Dmitriyeva).

(Soviet Far East--Physical geography)

KOSYGIN, A.; NOVIKOV, V.; MURAV'YEVA, N.; ZOTOV, V.; AKIMOV, I.; SPORYSHEV, V.; KOLOSOVA, V.; CHESNOKOV, N.; NEFEDOVA, O.; BOGAYEVA, A.; PIKOVSKIY, G.; KARMANOV, M.; SIYTAM, Ye.; KHODAKOVA, S.; KUSHNER, P.; BLYAKHMAN, I.; BASSIAS, L.; KINESHEMTSEVA, A.; REZNIKOV, M.; KALININ, S.; MILANOVA, D.; VENGEROVA, R.; AGROSKINA, M.; RATNER, B.; NARODETSKIY, B.; MARKOVA, L.; GOLUBENKOVA, N.; TSEKHANSKAYA, S.; TERENT'YEVA, N.; NESTEROVA, S.; AKSENOV, S.

D.M.Khazan-Andreeva; obituary. Tekst.prom. 21 no.12:90 D '61.
(MIRA 15:2)
(Khazan-Andreeva, Dora Moiseevna, 1894-1961)

KARMANOV, N.G.

USSR/Farm Animals - Cattle. Q-3

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30948

Author : Karmanov N.G.
Inst : -
Title : Some Exterior and Production Indexes of the Shamarskiy Cattle.
(Nekotoryye ekster'yernyye i produktivnyye pokazateli shamarskogo skota).

Orig Pub : Tr. Sverdl. s.-kh. in-ta, 1957, 1, 179-185.

Abstract : The study of the Shamarskiy cattle in the Sverdlovsk Oblast' showed the existance of 3,000 hybrids of different generations of the Tagilo-Shamarskiy cattle. The Shamarskiy breed, by its body build, is nearer to the dairy type, has a live weight of over 400 kg. and a milk yield of 966-1097 kg. with a fat content of 4.42% (3.9-5.6). It is recommended to switch from the method of "blood absorption" to the method of "reproductive"

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KARMANOV, N.G., kand. sel'skokhozyaystvennykh nauk

Urgent tasks in breeding Tagil cattle. Zhivotnovodstvo 20 no. 10:48-53 O '58. (MIRA 11:10)

1. Sverdlovskiy sel'skokhozyaystvennyy institut.
(Cattle breeds)

PAPERNYY, Yevgeniy Aleksandrovich; EYDEL'SHTEYN, Igor' Lazarevich; KRASITSKIY, Miroslav Stepanovich; KAMMANOV, S., red.

[Proper temperature measurement] Pravil'noe izmerenie temperatur. Kaliningrad, Kaliningradskoe knizhnoe izd-vo, 1964. 136 p. (MIRA 17:11)

KARMANOV, S.N., kand.sel'skokhozyaystvennykh nauk

Effect of fertilizers on the seed qualities of potatoes. Agrobiologiia no.5:768-770 S-O '60. (MIRA 13:10)

1. Moskovskaya sel'skokhozyaystvennaya akademiya imeni K.A.Timiryazeva.
(Potatoes--Fertilizers and manures)

KARMANOV, S.N., kand. sel'skokhoz. nauk

Effect of fertilizers on the yield and quality of potatoes.
Izv. TSKhA no.6:226-233 '61. (MIRA 16:8)

(Potatoes--Fertilizers and manures)

KARMANOV, S.N., kand.sel'skokhozyaystvennykh nauk

Growing potatoes on drained peat soils as a reliable method for improving their seed qualities. Agrobiologiia no.5:789-790 S-O '62. (MIRA 15:11)

1. Moskovskaya sel'skokhozyaystvennaya akademiya imeni K.A. Timiryazeva.

(Peat soils) (Seed potatoes)

KARMANOV, T.

Protection of ice holes against freezing. Pozh.delo 9 no.1:6 Ja '63. (MIRA 16:1)

1. Sovkhoz "Doskino", Gor'kovskaya obl.
(Fire extinction--Water supply)

KARMANOV, V.

KARMANOV, V., polkovnik.

Building light-type dugout shelters at night. Voen-inzh.zhur. 101 no.9:23-25 S '57. (MLRA 10:9)

(Intrenchments)

LOBANOV, V.I.; KARMANOV, V.A.

Improve the quality of hemp fiber. Tekst. prom. 19 no.6:16-20 Je '59. (MIRA 12:9)

(Hemp)

L 16468-65 EWI(m)/EPF(n)-2/EPR/T/EWP(t)/EWP(b) Ps-4/Pu-4 IJP(c)/ASD(f)-2/
ASD(m)-3 MJW/JD/JG/MLK
ACCESSION NR: AT4048077 S/0000/64/000/000/0227/0235 8+1

AUTHOR: Kornilov, I. I. (Professor, Doctor of chemical sciences); Andreyev, O. N.; Voshedchenko, B. M.; Karmanov, V. A.

TITLE: Comparative study of heat resistance in titanium-alloy sheets and welds at 450, 550, 650 and 700C [Report presented at the 5-oye soveshchaniye po metallurgii, metallovedeniyu i primeneniyu titana i yego splavov (5th Conference on Metallurgy, Metallography and Application of Titanium and Its Alloys) held at Moscow, 1963]

SOURCE: Soveshchaniye po metallurgii, metallovedeniyu i primeneniyu titana i yego splavov. 5th, Moscow, 1963. Metallovedeniye titana (metallography of titanium); trudy* soveshchaniya. Moscow, Izd-vo Nauka, 1964, 227-235

TOPIC TAGS: titanium, alloy, heat resistant alloy, aluminum containing alloy, manganese containing alloy, tin containing alloy, molybdenum containing alloy, vanadium containing alloy, chromium containing alloy, iron containing alloy, silicon containing alloy, boron containing alloy

ABSTRACT: Solid and welded 1 mm-thick sheets of OT4, VT5-1, VT14, T3M, OT4-2, AT3, AT4, AT6, and AT8 titanium-base alloys (see Table 1 of the Enclosure) were tested for heat resistance at 450, 550, 650

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L 16468-65
ACCESSION NR: AT4048077

SUBMITTED: 15Jul64 ENCL: 01 SUB CODE: MM

NO REF SOV: 010 OTHER: 000 ATD PRESS: 3147

Card 3/4

L 16468-65
ACCESSION NR: AT4048077

ENCL: 01

Table 1. Chemical composition of titanium-alloy sheets

Alloy	Al	Cr	Fe	Si	B	Sn	Mn	Mo	V	C	N	H,
AT free Al	—	0,8	0,5	0,5	0,01	—	—	—	—	—	—	—
AT3	2,8	0,89	0,32	0,45	0,01	—	—	—	—	0,053	0,013	0,01
AT4	4,43	0,89	0,31	0,57	0,01	—	—	—	—	0,023	0,018	0,005
AT6	5,43	0,67	0,23	0,45	0,01	—	—	—	—	0,027	0,021	—
AT8	6,81	0,98	0,4	0,59	0,01	—	—	—	—	0,01	—	—
VT5-1	4,35	—	0,06	0,08	—	2,22	—	—	—	0,01	0,03	0,007
OT4	2,05	—	0,175	0,07	—	—	1,34	—	—	0,06	0,04	0,007
OT4-2	5,8	—	—	—	—	—	1,1	—	—	—	—	—
T3M	—	—	—	—	—	—	—	2,5	—	—	—	—
VT14	3,9	—	0,001	0,009	—	—	—	2,0	1,1	0,03	0,01	0,007

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BALAKHONOV, V.P.; BOCHIN, N.A.; GUTERMAN, I.G.; ZAKHAROV, V.N.; ZMIYEV, A.B.; KARMANOV, V.D.; KEKUKH, A.M.; MARGOLIN, L.M.; TOPAL, I.D.

Brief news. Meteor.i gidrol no.2:61-64 F '63. (MIRA 16:2)
(Meteorology)

KARMANOV, V. G.

Botany - Physiology

Heat inertness in leaves. Dokl. AN SSSR 83 no. 3, March 1952

Agor-Fizicheskiy Institut Vsesoyuznoy
Akademii Sel'skokhozyaystvennykh Nauk

SO: Monthly List of Russian Accessions, Library of Congress, August 1953, Uncl.
im. V. I. Lenina red. 26 Jan. 1952

1. KARMANOV, V.G.

2. USSR (600)

4. Plants, Effect of Temperature on

7. Study of temperature changes in plant leaves resulting from heat released in the formation of ice. Dokl. AN SSSR 84 no. 2, 1952. Agrofizicheskiy Institut Vsesoyuznoy Akademii Sel 'skokhozyaystvennykh Nauk im. V. I. Lenina

9. Monthly List of Russian Accessions. Library of Congress, September 1952, UNCLASSIFIED.
Leningrad

rcd. 4. March 1952.

KARMANOV, V. G.

KARMANOV, V. G. -- "Measuring the Temperature of Plant Leaves during Physiological Investigations." All-Union Order of Lenin Acad Agricultural Sciences imeni V. I. Lenin, Agrophysical Sci Res Institute, Leningrad, 1956. (Dissertation for the Degree of Candidate of Agricultural Sciences)

SO: Knizhnaya Letopis' No 43, October 1956, Moscow

KARMANOV, V.G.; PUMPYANSKAYA, S.L.

Study of the diurnal course of transpiration in cotton plants.
Biofizika 1 no.1:43-48 '56. (MIRA 9:12)

1. Nauchno-issledovatel'skiy agrofizicheskiy institut, Leningrad.
(COTTON) (PLANTS--TRANSPIRATION)

KARMANOV, V.G., kandidat sel'skokhozyaystvennykh nauk; PUMPYANSKAYA, S.L. kandidat sel'skokhozyaystvennykh nauk.

Reflection of the photoperiodic rhythm of cultivation in the transpiration of the stringbean. Agrobiologiia no.6:117-124 N-D'56. (MLRA 10:1)

1. Agrofizicheskiy nauchno-issledovatel'skiy institut, Leningrad.
(Photoperiodism) (Plants--Transpiration) (Beans)

KARMANOV, V.G.; PUMPYANSKAYA, S.L.

Some characteristics of temperature changes in lemon leaves.
Bot.zhur. 41 no.3:409-416 Mr '56. (MLRA 9:8)
(Leaves) (Lemon)

17(1), 28(1) SOV/20-126-1-57/62

AUTHOR: Karmanov, V. G.

TITLE: The Application of Automation and Cybernetics in Plant Cultivation (Prilozheniye avtomatiki i kibernetiki k rasteniyevodstvu)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 1, pp 207-209 (USSR)

ABSTRACT: There is no guarantee, neither under natural conditions nor under greenhouse - or even laboratory conditions - that the plant will actually always grow under conditions providing highest productivity. One may only speak of average conditions, favorable or unfavorable, during a relatively long period. It is necessary, however, to observe the metabolic processes which take place in the organism and to adjust the surrounding conditions in such a way as to make them correspond to the highest vitality, if the highest degree of productivity shall be guaranteed in an organism. Plants hardly possess any system of apperception or of execution characteristic for higher animals. It is possible however, to equip plants and other simple organisms with an apparatus which observes and records the various processes, and which also adjusts the influence of the

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surrounding world to the physiological condition of the organism. In the present paper, the author describes the results achieved in applying the apparatus he designed for regulating the light conditions of beans, according to a programme given by the plant itself. This regulation takes place by transpiration. As in his previous work (Refs 1-3), the author applied two methods for the definition of transpiration: a) the temperature method, b) the hygrometrical method. The fact that the plant itself, with the help of the apparatus, fixed a "24-hour" rhythm which actually resembles that of medium latitudes, according to the author's opinion, expresses the rhythm of internal physiological processes (in this case of transpiration) developed in the course of evolution, fixed by hereditary transmission and also reflecting the permanent surrounding conditions. This confirms the reliability of results formerly achieved and published by the author. Thus the modern means of automation make it possible to equip the plant with an apparatus which observes and records its transpiration, and which also adjusts the light conditions to this physiological process. This makes possible an artificial elimination of the

main deficiency of plants, i.e. their complete dependence on the surrounding conditions. Plants were thus given the ability to perform certain functions which only higher animals possessed. It still remains the task of man to improve the apparatus in such a way as to adjust the conditions corresponding to the highest productivity of the plants. There are 5 Soviet references.

PRESENTED: October 25, 1958, by A. F. Ioffe, Academician

SUBMITTED: August 8, 1958

S/169/63/000/001/017/062
D263/D307

AUTHORS: Andreyeva, A.N., Karmanov, V.G. and Ryabova, Ye.P.

TITLE: A semiconductor bolometric radiant energy receiver for phytophysiological and microclimatic investigations

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1963, 6, abstract 1B46 (Sb. tr. po agron. fiz., 1962, no. 9, 162-170)

TEXT: Construction of the bolometer is described. The receiving semiconducting layer is 6 - 8 mm^3 in area and ~ 10 μ thick. Its resistance is 20 - 50 kΩ at 20°C, with a temperature coefficient of 3.5% per degree at 20°C, and a power dissipation of 200 - 300 μv per degree. Paired blocks of the bolometer are blackened and are placed in an internally blackened box, covered with fluorite filters. The device is 10 mm high and 11 mm in diameter and possesses a 20 mm tubular handle. The bolometer is connected into a bridge with a supply of 3 - 7 v. Sensitivity of the receiver is such as to allow

Card 1/2

A semiconductor ...

operation with light intensities varying from direct solar illumination to e.g. 0.01% of that value (from 1.1 to 0.0001 volt.cm^{-2}). The disadvantage of the bolometer is the nonlinearity of response when the film is heated, and a dependence of response on the bridge voltage. The following points are considered: measurement of the radiation balance components of leaves of vegetation, measurement of the intensity of monochromator light beams, measurement of the indicatrix of dispersed light, study of the radiational field of light installations, determination of the relative emissive characteristics of various bodies and the determination of the rate of drying of the ground and of leaves.
[Abstracter's note: Complete translation]

KARMANOV, V.G.; SAVIN, V.N.

Self-fluctuating nature of water metabolism in bean plants.
Dokl. AN SSSR 154 no.4:970-973 F '64. (MIRA 17:3)

1. Agrofizicheskiy nauchno-issledovatel'skiy institut.
Predstavleno akademikom N.M. Sisakyanom.

KARMANOV, V.G.; MELESHCHENKO, S.N.

Some data on the effect of mineral nutrition on water balance in plants. Dokl. AN SSSR 164 no.3:699-700 S '65.
(MIRA 18:9)

1. Submitted December 21, 1964.

KARMANOV, V.G.; MELESHCHENKO, S.N.; SAVIN, V.N.

Nature of the changes in plant leaf impedance following auto-oscillatory regimen of water metabolism. Biofizika 10 no.1: 155-160 '65. (MIRA 18:5)

1. Agrofizicheskiy nauchno-issledovatel'skiy institut Ministerstva sel'skogo khozyaystva, Leningrad.

MELESHCHENKO, S.N.; KARMANOV, V.G.

Effect of mineral nutrition on the water requirement in plants.
Biofizika 10 no.6, 1068-1075 '65. (MIRA 19:1)

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